



CASE 4-31617B

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November 29, 2005  
Date of Deposit

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF

Art Unit: 1635

LIAU ET AL.

APPLICATION NO: 10/619,344

FILED: JULY 14, 2003

FOR: INTRODUCTION OF BLOOD VESSEL FORMATION THROUGH  
ADMINISTRATION OF POLYNUCLEOTIDES ENCODING  
SPHINGOSINE KINASES

**MS: Amendment**

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Applicants believe this paper is being filed before the mailing date of a first Office Action on the merits, and so under 37 C.F.R. §1.97(b)(3) no fees are required. If a fee is deemed to be required, the Commissioner is hereby authorized to charge such fee to Deposit Account No. 19-0134.

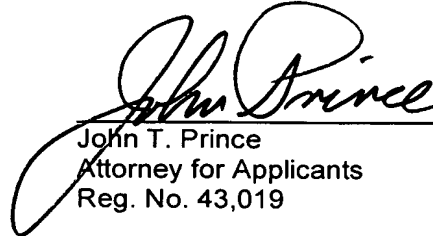
In accordance with 37 C.F.R. 1.56, Applicants wish to call the Examiner's attention to the references cited on the attached form(s) PTO-1449.

The listed references are of record in parent Application No. 09/970,516 filed August 1, 2002 (now U.S. Pat. No. 6,610,534) and copies are available therein. However, Applicants are willing to send copies of any or all of these references at the Examiner's request.

The Examiner is requested to consider the foregoing information in relation to this application and indicate that each reference was considered by returning a copy of the initialed PTO 1449 form(s).

Respectfully submitted,

Novartis  
Corporate Intellectual Property  
One Health Plaza, Building 104  
East Hanover, NJ 07936-1080  
(617) 871-3346



John T. Prince  
Attorney for Applicants  
Reg. No. 43,019

Date: November 29, 2005

## INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

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## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	AA	5932540	8/1/99	Hu et al			
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	OFFICE	CLASS	SUBCLASS	TRANSLATION YES NO	
	AM	WO 99/61581	12/99				<input type="checkbox"/>	<input type="checkbox"/>
	AN	WO 00/70028	11/1/00				<input type="checkbox"/>	<input type="checkbox"/>
	AO						<input type="checkbox"/>	<input type="checkbox"/>
	AP						<input type="checkbox"/>	<input type="checkbox"/>
	AQ						<input type="checkbox"/>	<input type="checkbox"/>

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent pages, Etc.)

	AR	Boguslawski, et al., "Sphingosylphosphorylcholine Induces Endothelial Cell Migration and Morphogenesis," Biochemical and Biophysical Research Communications, 272:603-609 (Jun. 7, 2000).
	AS	Hla, et al., "Sphingosine-1-phosphate: Extracellular Mediator or Intracellular Second Messenger?" Biochemical Pharmacology, 58:201-207 (1999).
	AT	Kohama, et al., "Molecular Cloning and Functional Characterization of Murine Sphingosine Kinase," The Journal of Biological Chemistry, 273(37):23722-23728 (Sep. 11, 1998).

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial of reference considered, whether or not citation is in conformance with MPEP 609: Draw a line through citation if not in conformance and not considered. Include a copy of this form with the next communication to applicant.

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DA	Lee, et al., "Sphingosine-1-Phosphate as a Ligand for the G Protein-Coupled Receptor EDG-1," Science, 279:1552-1555 (Mar. 6, 1998).
DB	Lee, et al., "Vascular Endothelial Cell Adherens Junction Assembly and Morphogenesis Induced by Sphingosine-1-Phosphate," Cell, 99:301-312 (Oct. 29, 1999).
DC	Lee, et al., "Sphingosine 1-Phosphate Induces Angiogenesis: Its Angiogenic Action and Signaling Mechanism in Human Umbilical Vein Endothelial Cells," Biochemical and Biophysical Research Communications, 264:743-750 (1999).
DD	Liau, G., "A Gene Therapy Approach toward the Modulation of Angiogenesis," International Business Communications Sixth Annual International Conference on Angiogenesis, Oct. 5-6, 2000.
DE	Liu, et al., "Molecular Cloning and Functional Characterization of a Novel Mammalian Sphingosine Kinase Type 2 Isoform," The Journal of Biological Chemistry, 275(26):19513-19520 (Jun. 30, 2000).
DF	Liu, et al., "Edg-1, the G Protein-Coupled Receptor for Sphingosine-1-Phosphate, is Essential for Vascular Maturation," The Journal of Clinical Investigation, 106(8):951-961 (Oct. 2000).
DG	Nava, et al., "Functional Characterization of Human Sphingosine Kinase-1," FEBS Letters, 473:81-84 (May 4, 2000).
DH	Olivera, et al., "Sphingosine-1-Phosphate as Second Messenger in Cell Proliferation Induced by PDGF and FCS Mitogens," Nature, 365:557-560 (Oct. 7, 1993).
DI	Panetti, et al., "Sphingosine-1-Phosphate and Lysophosphatidic Acid Stimulate Endothelial Cell Migration," Arterioscler. Thromb. Vasc. Biol., pp. 1013-1019 (1999).
DJ	Passaniti, et al., "Methods in Laboratory Investigation," Laboratory Investigation, 67(4):519-528 (1992).
DK	Pyne, et al., "Sphingosine 1-Phosphate Signalling in Mammalian Cells," Biochem., J., 349:385-402 (Jul. 15, 2000).
DL	Spiegel, S., "Sphingosine 1-Phosphate: A Prototype of a New Class of Second Messengers," Journal of Leukocyte Biology, 65:341-344 (Mar. 1999).
DM	Wang, et al., "Sphingosine 1-Phosphate Stimulates Cell Migration Through a G.sub.I -Coupled Cell Surface Receptor," The Journal of Biological Chemistry, 274(50):35343-35350 (Dec. 10, 1999).
DN	Yla-Herttuala, et al., "Cardiovascular Gene Therapy," The Lancet, 355:213-222 (Jan. 15, 2000).

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**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent pages, Etc.)

	DA	Zhang, et al., "Comparative Analysis of Three Murine G-Protein Coupled Receptors Activated by Sphingosine-1-Phosphate," Gene, 227:89-99 (1999).
	DB	Banno, et al., "Evidence for the Presence of Multiple Forms of Sph Kinase in Human Platelets," J. Biochem., 335:301-304 (1998).
	DC	
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